CASE

REPAIR MANUAL

FORKLIFT

586G
588G
SERIES 3
TIER 3

87728464 NA

Issued 01 April 08

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Repair Manual
Bur 87728464
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NOTE: CNH Corporation reserves the right to make improvements in design or changes in specifications at any time without incurring any obligation to install them on units previously sold.

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64 – Grid Heater Relay

The grid heater relay is located on the right side of the fire wall beside the air filter.

Check Points	Reading	Possible Cause of Bad Reading
Terminal 86 to ground	Continuity	Bad ground circuit.
NOTE: *Have an assistant put the transmission in neutral and the ignition switch in the ON position. Make sure the engine temperature is below -1°C (29°F).*		
Terminal 30 to ground	12 volts	Bad grid heater controller, bad circuit.
Terminal 87a to ground	12 volts	Bad grid heater relay.
NOTE: *Have an assistant put the transmission in neutral and the ignition switch in the START position. Make sure the engine temperature is below -1°C (29°F).*		
Terminal 85 to ground	12 volts	Bad starter relay (10), bad wire 21B from starter solenoid.
Terminal 87 to ground	12 volts	Bad grid heater relay.

65 – Grid Heater Fuse

The grid heater fuse is located on the right side of the fire wall beside the air filter.

Check Points	Reading	Possible Cause of Bad Reading
Between terminals of fuse	Continuity	Bad Fuse

66 – Resistor

Check Points	Reading	Possible Cause of Bad Reading
Between terminals of resistor	3.01K ± 1%	Bad resistor

67 – Grid Heater Thermo Sending Unit

The grid heater thermo sending unit is located at the front top of the engine.

Check Points	Reading	Possible Cause of Bad Reading
Between terminals for thermo switch	5680 to 7230 Ohm at -1° F (29° C)	Bad thermo sender

68 – Cold Start Indicator Lamp

NOTE: *Turn the ignition switch in the ON position. Make sure the engine temperature is below -1°C (29°F).*

Check Points	Reading	Possible Cause of Bad Reading
Bulb	Good	Bad bulb.
Terminal for wire 31C to ground	12 volts	Bad grid heater controller (59), check circuit.
Terminal for wire 30 to ground	Continuity	Bad ground circuit.

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TROUBLESHOOTING TABLES

Problem in Brake System

Do brakes stop machine evenly.	No →	See Troubleshooting "Left and Right Brake Circuit" in this section.
Yes ↓		
Is excess pressure required to stop the machine.	Yes →	See section 6004 for brake disc replacement.
No ↓		
Is the brake pedal soft or spongy when applied.	Yes →	See section 7000 for bleeding the brake system.
No ↓		
Are brakes noisy during operation.	Yes →	See section 6004 for brake disc replacement.

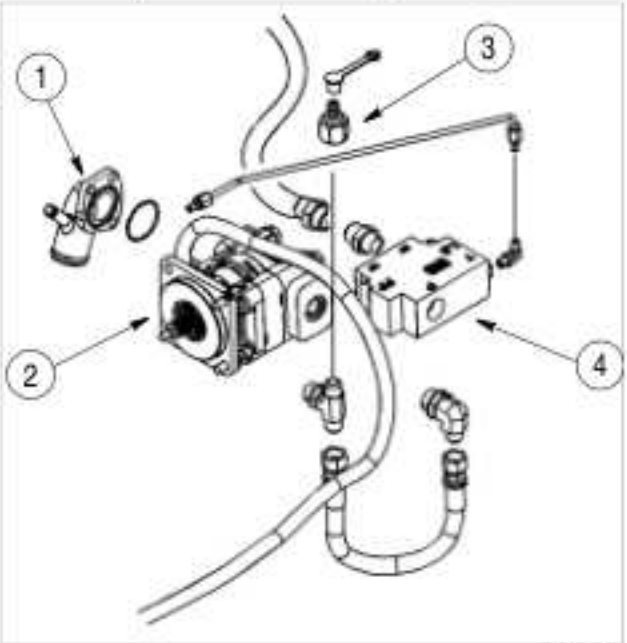
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RELIEF VALVE TEST

Main Relief Valve

Pressure Check

1. Park the machine on a level surface. Lower the forks or carriage to the floor.
2. The oil must be at operating temperature. To heat the oil, do the following steps:
   A. With the engine running at full throttle, hold the tilt control lever in the BACK position for 15 seconds.
   B. Put the tilt control lever in the NEUTRAL position for 15 seconds.
   C. Repeat steps A and B until the temperature of the oil is 49°C (120°F) or the side of the reservoir is very warm.
3. Use a pressure gauge with a capacity of at least 281 bar (4000 psi). Connect the pressure gauge to the quick disconnect fitting at Test Port.

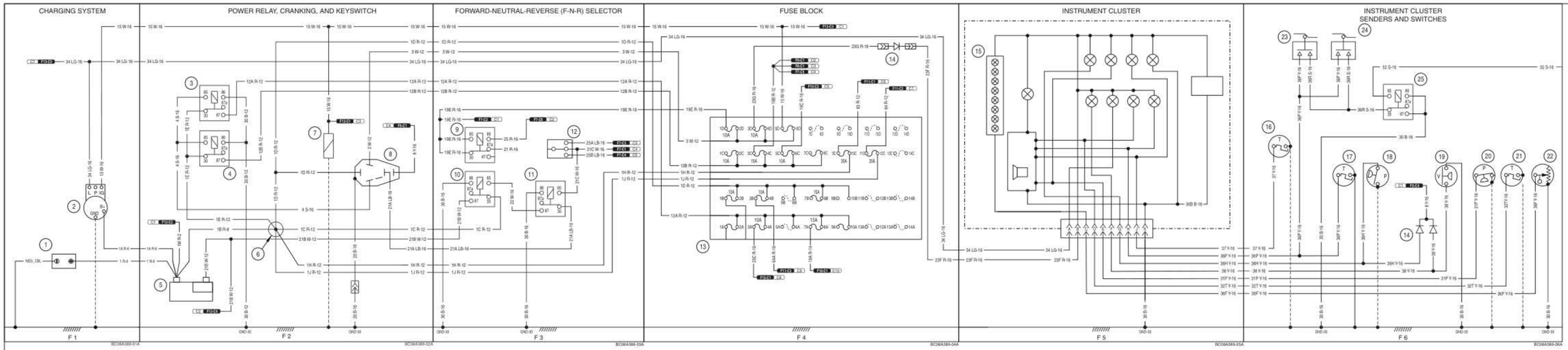


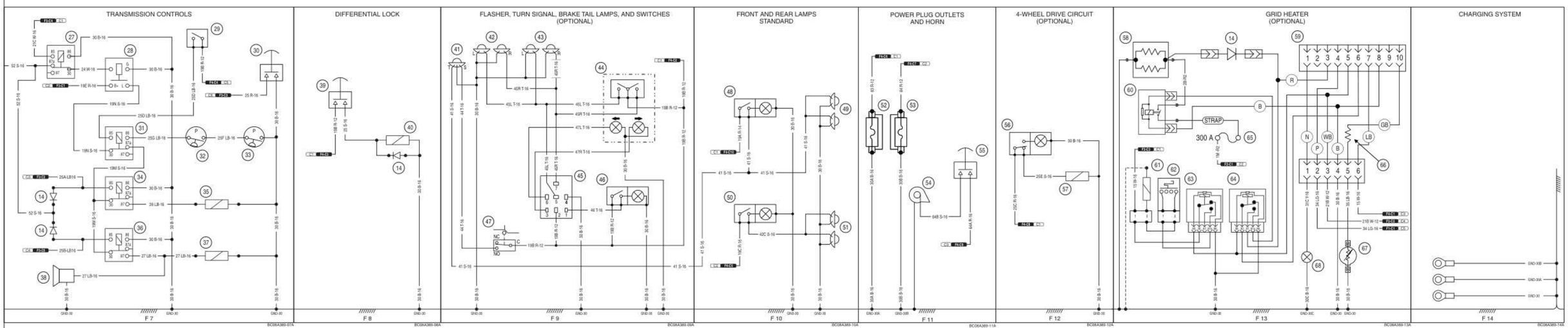
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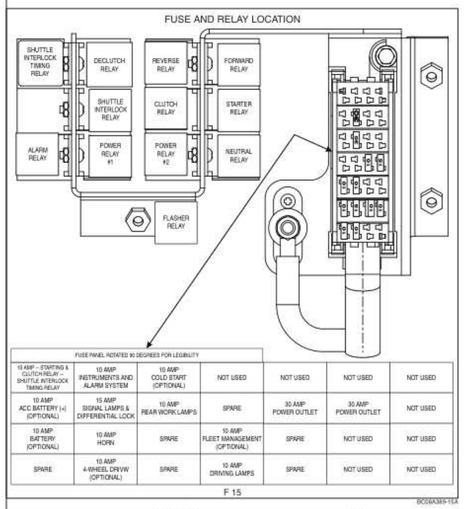
1. FROM RESERVOIR
2. HYDRAULIC PUMP
3. TEST PORT
4. PRIORITY VALVE

4. Run the engine at full throttle. Hold the tilt control lever in the BACK position until the mast stops moving.
5. Hold the tilt control lever in the BACK position and read the pressure gauge. Then release the tilt control lever and decrease the engine speed to low idle. Stop the engine.
6. Compare the reading with the specification on page 3. If the reading is not correct, replace the main relief valve.

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FRAME NUMBER - COMPONENT NUMBER	FRAME NUMBER - COMPONENT NUMBER	FRAME NUMBER - COMPONENT NUMBER	FRAME NUMBER - COMPONENT NUMBER	FRAME NUMBER - COMPONENT NUMBER	FRAME NUMBER - COMPONENT NUMBER
FRAME 1 COMPONENTS 1 - 1. Battery 1 - 2. Alternator FRAME 2 COMPONENTS 2 - 3. Power Relay - #1 2 - 4. Power Relay - #2 2 - 5. Starter 2 - 6. Power Junction 2 - 7. Fuel Shutoff Solenoid 2 - 8. Key Switch FRAME 3 COMPONENTS 3 - 9. Clutch Relay 3 - 10. Starter Relay 3 - 11. Neutral Relay 3 - 12. F-N-R Switch	FRAME 4 COMPONENTS 4 - 13. Fuse Panel 4 - 14. Diode FRAME 5 COMPONENTS 5 - 15. Instrument Cluster FRAME 6 COMPONENTS 6 - 16. Engine Coolant Temperature Sender 6 - 17. Front Axle Temperature Switch 6 - 18. Hydraulic Filter Restriction Switch 6 - 19. Air Filter Restriction Switch 6 - 20. Oil Pressure Switch 6 - 21. Transmission Temperature Sender 6 - 22. Fuel Level Sender 6 - 23. Park Brake Switch - Left-Hand 6 - 24. Park Brake Switch - Right-Hand 6 - 25. Alarm Relay 6 - 26. Not Used	FRAME 7 COMPONENTS 7 - 27. Shuttle Interlock Relay 7 - 28. Shuttle Interlock Timing Relay 7 - 29. Declutch Override Switch 7 - 30. Shift Handle Clutch Cutout Switch 7 - 31. Declutch Relay 7 - 32. Declutch Brake Pressure Switch - Right-Hand 7 - 33. Declutch Brake Pressure Switch - Left-Hand 7 - 34. Forward Relay 7 - 35. Forward Solenoid 7 - 36. Reverse Relay 7 - 37. Reverse Solenoid 7 - 38. Backdup Alarm FRAME 8 COMPONENTS 8 - 39. Differential Lock Engage Switch 8 - 40. Differential Lock Solenoid	FRAME 9 COMPONENTS 9 - 41. Rear Stop and Tail Lamp 9 - 42. Rear Turn Lamps 9 - 43. Front Turn Lamps 9 - 44. Turn Signal Switch and Indicator Lamps 9 - 45. Flasher Relay 9 - 46. Flasher Switch 9 - 47. Break Lamp Switch FRAME 10 COMPONENTS 10 - 48. Driving Lamp Switch 10 - 49. Front Driving Lamps 10 - 50. Rear Work Lamp Switch 10 - 51. Rear Work Lamps	FRAME 11 COMPONENTS 11 - 52. Power Plug #1 11 - 53. Power Plug #2 11 - 54. Horn 11 - 55. Horn Switch FRAME 12 COMPONENTS 12 - 56. 4-Wheel Drive Switch 12 - 57. 4-Wheel Drive Solenoid	FRAME 13 COMPONENTS 13 - 58. Grid Heater 13 - 59. Cold Start Controller 13 - 60. Cold Start Relay 13 - 61. KKSB Solenoid 13 - 62. KKSB Thermo Switch 13 - 63. KKSB Cutout Relay 13 - 64. Grid Heater Relay 13 - 65. 300 Ampere Fuse 13 - 66. Resistor - 3.01K ± 1% 13 - 67. Cold Start Temperature Sender 13 - 68. Cold Start Indicator Lamp

ACTUATORS: LEVER, HAND, FOOT, COIL, TEMP, DIODE, PRESSURE, FLOAT LIQUID LEVEL

HOUSINGS: VACUUM SWITCH, PRESSURE SWITCH, LAMP, MOTOR, TEMPERATURE SWITCH

CONTACT CONFIGURATIONS: S.P.S.T., S.P.D.T., D.P.S.T., D.P.D.T.

MISCELLANEOUS SYMBOLS: MOMENTARY CONTACTS, MAINTAINED CONTACTS, VARIABLE RESISTOR, RESISTOR, FUSE, CIRCUIT BREAKER, MALE TERMINAL, FEMALE TERMINAL, COMPONENT NUMBER

SHOWS CIRCUIT SPLICE CONNECTION — SPL-90

SHOWS CIRCUIT CROSSING NOT CONNECTED

INDICATES EXTERNAL GROUND

INDICATES INTERNALLY GROUNDED COMPONENT

FEMALE CONNECTOR, MALE CONNECTOR, CONNECTOR NUMBER, CONNECTOR IDENTIFICATION, CONNECTOR NUMBER, INDICATES PARTIAL CONNECTOR, NOT ALL CONNECTIONS ARE SHOWN

WIRE IDENTIFICATION

B . . . BLACK	O . . . ORANGE
DB . . DARK BLUE	P . . . PURPLE
G . . . GREEN	R . . . RED
K . . . PINK	S . . . GRAY
LG . . LIGHT GREEN	T . . . TAN
LB . . LIGHT BLUE	W . . . WHITE
DG . . DARK GREEN	Y . . . YELLOW

702A G-1.0 — WIRE NUMBER, WIRE COLOR, WIRE SIZE

CIRCUIT CONTINUATION: Frame Number and Circuit Number where Circuit continues. CIRCUIT TAGS — FRAME - CIRCUIT — CIRCUIT — Circuit Number assigned to Circuit in Frame.

NOTES

NOTE 1: See the Repair Manual for the Troubleshooting Procedures of the Electrical Components.

ELECTRICAL SCHEMATIC
586/588G TIER 3 SERIES 3 FORKLIFT

Additional copies of this Hydraulic and Electrical Schematic can be ordered through Technical Publications Distribution System. The part number is 5-13210

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